

WHAT IS CLAIMED IS:

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5 1. An isolated nucleic acid molecule comprising at least 24 contiguous bases of a nucleotide sequence first disclosed in one of the *SGT4* genes described in the group consisting of SEQ ID NOS: 1 and 3.

2. An isolated nucleic acid molecule comprising a nucleotide sequence that encodes an amino acid sequence selected from the group consisting of SEQ ID NOS: 2 and 4.

10 3. An isolated nucleic acid molecule which hybridizes under stringent conditions to the nucleic acid molecule according to any one of Claims 1-2, or the complement thereof.

15 4. A recombinant vector comprising the nucleic acid molecule according to Claim 3.

5. An expression vector comprising the nucleic acid molecule according to Claim 3 operatively associated with a regulatory nucleic acid controlling the expression of the nucleic acid in a host cell.

20 6. A genetically engineered cell comprising the nucleic acid molecule according to Claim 3.

7. A transgenic, non-human animal, which has been genetically engineered to contain a transgene comprising the nucleic acid molecule according to Claim 3.

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8. A method for producing a polypeptide comprising expressing a nucleic acid molecule according to Claim 3 in a cell.

9. An isolated protein, polypeptide or peptide having at least about 7 contiguous amino acids first disclosed in an amino acid sequence selected from the group consisting of SEQ ID NOS: 2 and 4.

10. The protein, polypeptide, or peptide of Claim 9, having at least about 10 contiguous amino acids first disclosed in an amino acid sequence selected from the group consisting of SEQ ID NOS: 2 and 4.

11. The protein, polypeptide, or peptide of Claim 10, having at least about 15 contiguous amino acids first disclosed in an amino acid sequence selected from the group consisting of SEQ ID NOS: 2 and 4.

12. An isolated protein, polypeptide, or peptide comprising a protein, polypeptide, or peptide encoded by the nucleic acid molecule according to Claim 3.

13. A pharmaceutical composition comprising the protein, polypeptide, or peptide according to Claim 9.

14. An antibody which binds to the isolated protein, polypeptide, or peptide of Claim 9.

15. A method of drug discovery comprising assaying a compound for specific interaction with a protein, polypeptide, or peptide of Claim 9.

16. A method of screening for a compound that interferes with the binding of a protein, polypeptide, or peptide of Claim 9 with a binding partner to the protein, polypeptide, or peptide, the method comprising: providing a system comprising said protein, polypeptide, or peptide, a binding partner to said protein, polypeptide, or peptide, and a test compound, and determining whether the test compound interferes with the binding of the protein, polypeptide, or peptide to the binding partner.

17. A method for identifying a compound which modulates expression of an SGT4 comprising:

- (a) contacting a test compound to a cell that expresses an SGT4;
- (b) measuring a level of the SGT4 expression in the cell; and
- 5 (c) comparing the level of the SGT4 expression in the cell in the presence of the test compound to a level of the SGT4 expression in the cell in the absence of the test compound;

wherein, if the level of the SGT4 expression in the cell in the presence of the test compound differs from the level of expression of the SGT4 in the cell in the absence of the test
10 compound, a compound that modulates expression of the SGT4 is identified.

18. A method for transferring an SGT4 in a cell comprising contacting the cell with a nucleic acid comprising an SGT4 such that the SGT4 is transferred into the cell.

15 19. The method of Claim 18 wherein the SGT4 is expressed in the cell.

20. A method of treating a disease in a subject comprising administering to the subject a compound that modulates the activity or expression of a protein, polypeptide, or peptide of Claim 9.

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